4.0 ENVIRONMENTAL ANALYSIS

INTRODUCTION TO ENVIRONMENTAL ANALYSIS

Section 4 examines the potential environmental impacts of the proposed Project and Project Alternatives. This Section includes analyses of the environmental issue areas listed below:

- 4.1 Biological Resources
- 4.2 Agricultural Resources
- 4.3 Geology, Soils, Paleontology, and Mineral Resources
- 4.4 Hydrology and Water Quality
- 4.5 Hazards and Hazardous Materials
- 4.6 Air Quality
- 4.7 Traffic and Transportation
- 4.8 Noise
- 4.9 Cultural Resources
- 4.10 Aesthetic/Visual Resources
- 4.11 Land Use and Planning
- 4.12 Socioeconomic (Population and Housing / Public Services / Service Systems)
- 4.13 Recreation
- 4.14 Environmental Justice

Each environmental issue area analyzed in this document provides background information and describes the environmental setting (baseline conditions) to help the reader understand the conditions that would cause an impact to occur. In addition, each section describes how an impact is determined to be "significant" or "less than significant". Finally, the individual sections recommend mitigation measures (MMs) to reduce significant impacts. Throughout Section 4, both impacts and the corresponding MMs are identified by a bold letter-number designation (e.g., Impact **BIO-1** and **MM BIO-1a**).

In performing the analysis for this EIR, the EIR preparers relied on available published studies and reports and conducted independent investigations as needed. Information provided by PG&E in their application and accompanying environmental documentation was also considered in the EIR analysis after independent review and assessment by the EIR preparers. The specific documents considered and relied upon are cited for each issue area in Sections 4.1 through 4.14. The following studies and reports were

provided by PG&E with their application or in follow-up submittals to the California State Lands Commission (CSLC), and are available by appointment for public review during normal business hours at the CSLC Sacramento office located at 100 Howe Avenue, Suite 100-South (contact Crystal Spurr at 916-574-0748):

- Line 108 Replacement Project Environmental Analysis, Volume I, Chapters 1-8 (prepared March 2006 by PG&E, EIP Associates, and Trigon EPC);
- Line 108 Replacement Project Environmental Analysis, Volume II, Appendices (prepared March 2006 by PG&E, EIP Associates, and Trigon EPC);
    - Appendix A: Air Quality Model Outputs (prepared by EIP Associates);
    - Appendix B: PG&E Line 108 Pipeline Project Biological Resources Technical Report (prepared by EIP Associates);
    - Appendix C: PG&E Line 108 Draft Wetland Delineation Report (prepared by EIP Associates);
    - Appendix D: Elk Grove Gas Line 108 Project Thornton to Elk Grove Plant Survey Report (prepared by Garcia and Associates);
    - Appendix E: Cultural Resources Survey for the Line 108 Replacement Project in San Joaquin and Sacramento Counties, California (prepared by Applied Earthworks, Inc.);
    - Appendix F: Paleontologic Resource Assessment and Preliminary Impacts and Mitigation for the PG&E Line 108 Project (prepared by C. Bruce Hanson);
    - Appendix G: Geotechnical Engineering Report, Proposed 24-Inch Diameter PG&E 108 Gas Line Replacement, Thornton to Elk Grove, California (prepared by Terracon);
- Significance Evaluation of the Line 108 Suspension Bridge over the Cosumnes River in Sacramento County, California (prepared March 2007 by Applied Earthworks, Inc.); and
- Individual Permit Application, Department of the Army Sacramento District Corps of Engineers for the PG&E Line 108 Replacement Project (prepared July 2007 by EIP Associates).

ASSESSMENT METHODOLOGY

Environmental Baseline

The analysis of each issue area begins with an examination of the existing physical setting (baseline conditions as determined pursuant to section 15125(a) of the State CEQA Guidelines) that may be affected by the proposed Project. The effects of the

proposed Project are defined as changes to the environmental setting that are attributable to project components or operation.

Significance Criteria

Significance criteria are identified for each environmental issue area. The significance criteria serve as benchmarks for determining if a component action will result in a significant adverse environmental impact when evaluated against the baseline. According to the State CEQA Guidelines section 15382, a significant effect on the environment means "…a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project…"

Impact Analysis

Impacts are classified as:

- **Class I** (significant adverse impact that remains significant after mitigation);
- **Class II** (significant adverse impact that can be eliminated or reduced below an issue's significance criteria);
- **Class III** (adverse impact that does not meet or exceed an issue's significance criteria); or
- **Class IV** (beneficial impact).

A determination will be made, based on the analysis of any impact within each affected environmental issue area and compliance with any recommended mitigation measure(s), of the level of impact remaining in comparison to the pertinent significance criteria. If the impact remains significant, at or above the significance criteria, it is deemed to be Class I. If a "significant adverse impact" is reduced, based on compliance with mitigation, to a level below the pertinent significance criteria, it is determined to no longer have a significant effect on the environment, i.e., to be "less than significant" (Class II). If an action creates an adverse impact above the baseline condition, but such impact does not meet or exceed the pertinent significance criteria, it is determined to be adverse, but less than significant (Class III). An action that provides an improvement to an environmental issue area in comparison to the baseline information is recognized as a beneficial impact (Class IV).

Formulation of Mitigation Measures and Mitigation Monitoring Program

When significant impacts are identified, feasible mitigation measures are formulated to eliminate or reduce the intensity of the impacts and focus on the protection of sensitive resources. The effectiveness of a mitigation measure is subsequently determined by

evaluating the impact remaining after its application. Those impacts meeting or exceeding the impact significance criteria after mitigation are considered residual impacts that remain significant (Class I). Implementation of more than one mitigation measure may be needed to reduce an impact below a level of significance. The mitigation measures recommended in this document are identified in the impact sections and presented in a Mitigation Monitoring Program (MMP). The MMP is provided in Section 6.0.

If any mitigation measures become incorporated as part of a project's design, they are no longer considered mitigation measures under the CEQA. If they eliminate or reduce a potentially significant impact to a level below the significance criteria, they eliminate the potential for that significant impact since the "measure" is now a component of the action. Such measures incorporated into the project design have the same status as any "applicant proposed measures." The CSLC's practice is to include all measures to eliminate or reduce the environmental impacts of a proposed project, whether applicant proposed or recommended mitigation, in the MMP.

Impacts of Alternatives

Section 3 provides a list, description, and map that identify alternatives to the proposed Project. Each issue area in Section 4 presents the impact analysis for each alternative scenario. A summary of the collective impacts of each alternative in comparison with the impacts of the proposed Project is to be included within the Executive Summary Section.

Cumulative Projects Impact Analysis

Each issue area in Section 4 presents the cumulative impact scenario, the focus of which is to identify the potential impacts of the Project that might not be significant when considered alone, but that might contribute to a significant impact when viewed in conjunction with the other projects.